

REMARKS

Claims 1-12 were pending in the present application. Claims 1-4 were rejected. Claims 1, 3, 5 and 7 are herein amended. Claims 2, 4, 6, 8, 10 and 12 are herein cancelled without prejudice.

Applicants' Response to Claim Rejections under 35 U.S.C. §112

Claims 1-4 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

It is the position of the Office Action that the recitation that "said pitch of said printing convex portions is *substantially equal* to a width of one pixel printed on the printing object" in claims 1 and 3 is new matter. The Office Action states that the specification only supports the pitch of the printing convex portions matching the width of one pixel, referring to page 6, lines 15-18 of the specification. In response, Applicants herein amend the claims to recite that the pitch of the printing convex portion "matches" the same-color pitch. Favorable reconsideration is respectfully requested.

Applicants' Response to Claim Rejections under 35 U.S.C. §103

Claims 1 and 2 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lee et al. (U.S. Patent Application Publication No. 2002/0047560) in view of Amano et al. (JP 2002-293049).

It is the position of the Office Action that Lee discloses the invention as claimed, with the exception of (i) teaching the micro-projections being formed into a truncated cone or in a cylinder and (ii) the specifically claimed dimensions of the micro-projections. The Office Action relies on Amano to provide the teaching of (i), and argues that (ii) would have been obvious.

Lee is directed at an apparatus and method for patterning pixels of an electroluminescent display device. As illustrated in Figure 2, EL polymer 16 is deposited on polymer supply roller 8, and then transferred to molding plate 6 on roller 4. This molding plate 6 includes a series of lands 12 and grooves 14. A close-up of the molding plate 6 is provided in Figure 3. The land 12 includes indentations 12a. A perspective view of the molding plate 6 is provided in Figure 4, and a close-up is provided in Figure 5, where the indentations 12a are illustrated.

The polymer solution 16 is transferred from the surface of the supply roller 8 to the molding plate 6, and adheres to the surface of the lands 12 of molding plate 6 and in the indentations 12a of the lands 12. As illustrated in Figures 9A-9D, the polymer solution 16 can be printed onto an indium-tin-oxide (ITO) pattern 52 on a substrate 2. It is noted that in the embodiments of Figures 9A-9B and Figures 11A-11D, each printing space is separated by a barrier rib 50 or 40, respectively.

However, the embodiment illustrated in Figures 6A-6C lacks barrier ribs 50. As a result, the printed portions 20a will spread after printing. This is illustrated in Figures 7A-7C. Lee resolves this problem by adding barrier ribs 40/50. As illustrated in Figures 9A-9D and 11A-11D, these barrier ribs 40/50 prevent the spread of the printed material. Furthermore, although Lee does not explicitly state the thickness of the printed polymer 16, it is stated that in the prior

art, "it is difficult to form a pinhole-free thin film of less than 1000Å thickness." Paragraph [0008].

In response, Applicants respectfully submit that it would have been expected that the combination of Lee and Amano would result in a printing plate which would print strips lacking uniformity, unless a barrier rib was added. However, the printing convex portions having the micro-projections as claimed provides for the unexpected result of the ability to print highly precise and fine patterns having uniformity, without the need for barrier ribs. In support of this position, Applicants herewith submit a Declaration under 37 CFR 1.132 explaining why the ability to print highly precise and fine patterns having uniformity, without the need for barrier ribs, is an unexpected result. Please note that the Declarant is not the inventor, but rather another person having ordinary skill in the art. Therefore, for at least the above reasons, Applicants respectfully submit that it would not have been obvious to combine Lee and Amano. Favorable reconsideration is respectfully requested.

Claims 3 and 4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lee et al. (U.S. Patent Application Publication No. 2002/0047560) in view of Komura (JP 2003-029271).

It is the position of the Office Action that Lee discloses the invention as claimed, with the exception of (i) teaching the micro-strips on the top faces of the convex portions, wherein a cross-section of the micro-strips in a direction perpendicular to the longitudinal direction is trapezoidal or rectangular and (ii) the specifically claimed dimensions of the micro-strips. The

Office Action relies on Komura to provide the teaching of (i), and argues that (ii) would have been obvious.

As above, Applicants note that the embodiment illustrated in Figures 6A-6C of Lee lacks barrier ribs 50. As a result, the printed portions 20a will spread after printing. This is illustrated in Figures 7A-7C. Lee resolves this problem by adding barrier ribs 40/50. As illustrated in Figures 9A-9D and 11A-11D, these barrier ribs 40/50 prevent the spread of the printed material.

Similar to the comments above, Applicants respectfully submit that it would have been expected that the combination of Lee and Komura would result in a printing plate which would print strips lacking in uniformity and sharpness, unless a barrier rib was added. However, the printing convex portions having the micro-projections as claimed provides for the unexpected result of the ability to print highly precise and fine patterns which are uniform and have good sharpness, without the need for barrier ribs. In support of this position, Applicants herewith submit a Declaration under 37 CFR 1.132 explaining why the ability to print highly precise and fine patterns having uniformity and good sharpness, without the need for barrier ribs, is an unexpected result. Please note that the Declarant is not the inventor, but rather another person having ordinary skill in the art. Therefore, for at least the above reasons, Applicants respectfully submit that it would not have been obvious to combine Lee and Komura. Favorable reconsideration is respectfully requested.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

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Art Unit: 1794

Amendment under 37 C.F.R. §1.111
Attorney Docket No.: 032111

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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